2016

MISSOURI WILD TURKEY HARVEST AND POPULATION STATUS REPORT

Missouri Department of Conservation

Resource Science Division

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POPULATION STATUS

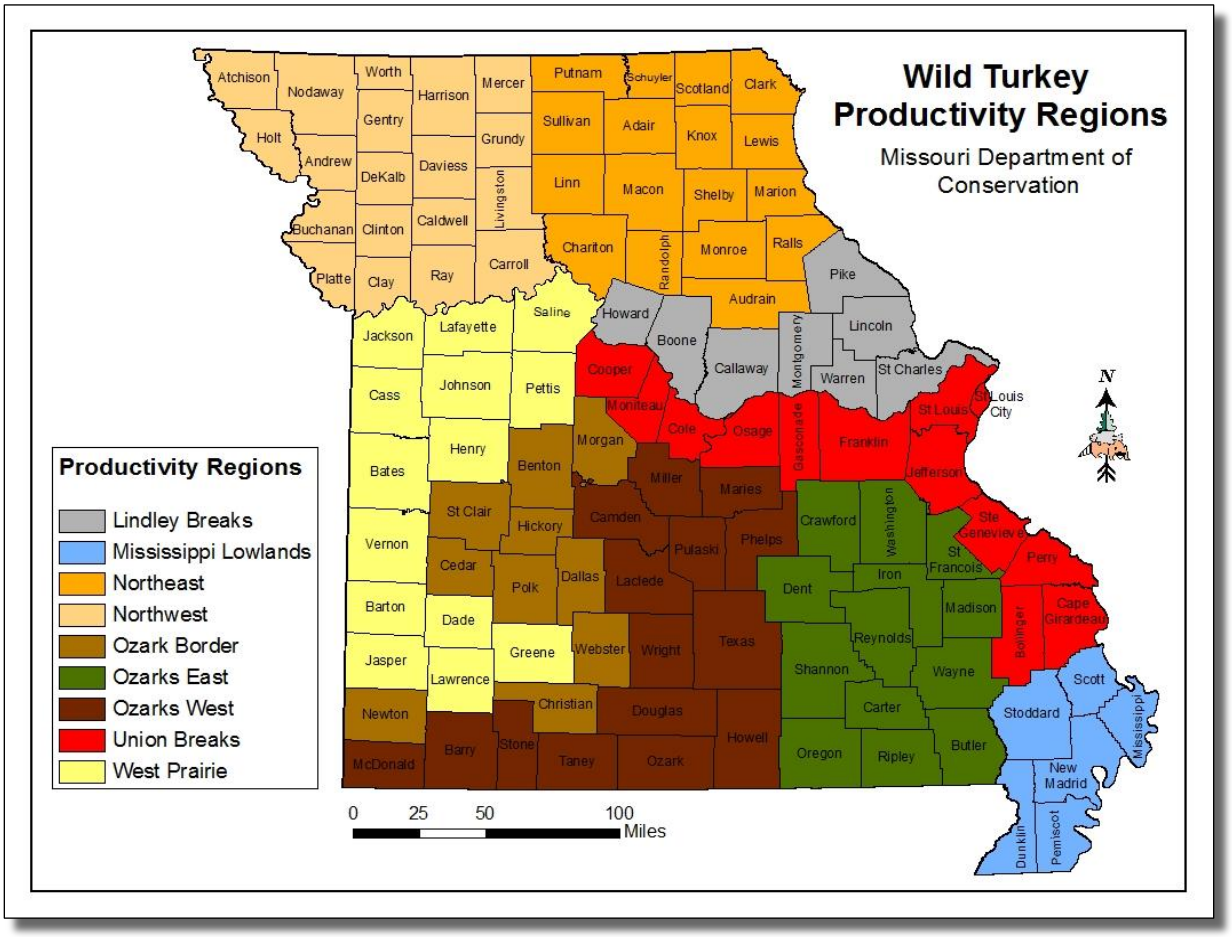
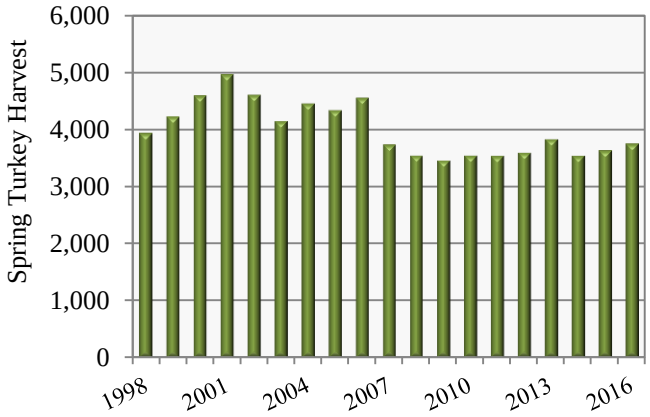


Figure 1. Turkey Productivity Regions in Missouri. Regions consist of counties grouped by similar land cover composition.

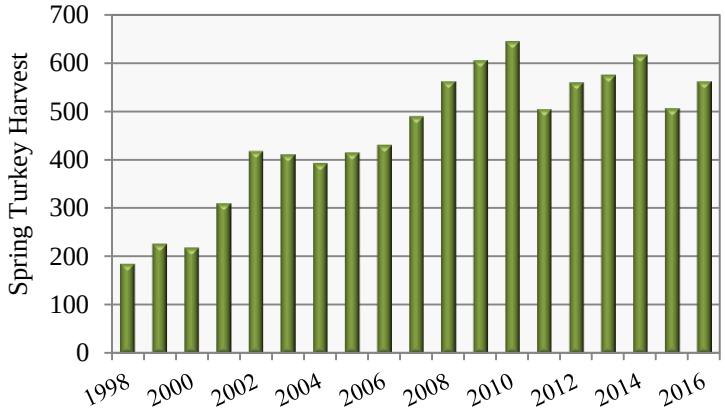
Lindley Breaks Region

Turkey numbers in the Lindley Breaks region (Figure 1) peaked in the early 2000s before declining by approximately 30% from 2001–2009. Improved production has helped to stabilize regional turkey numbers. Turkey abundance remains about 25% below the peak numbers observed more than a decade ago.



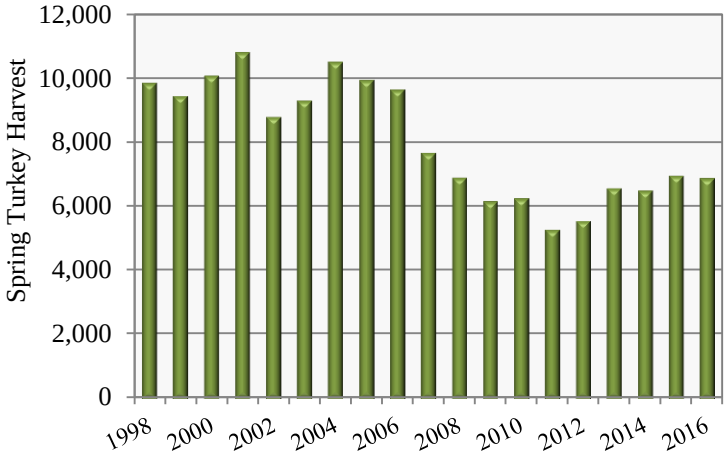
Mississippi Lowlands Region

Turkey numbers in the Mississippi Lowlands region (Figure 1) increased during the 2000s. Turkey habitat within the region is limited, resulting in low harvests compared to other regions. Regional turkey numbers are currently stable based on the five-year spring harvest trend.



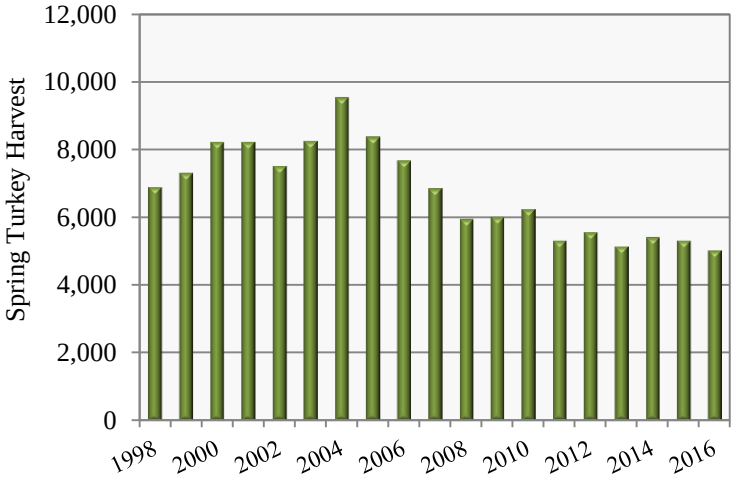
Northeast Region

Six consecutive years of poor production caused turkey numbers in the Northeast region (Figure 1) to decline by approximately 40% during the late 2000s. Regional turkey numbers remain about 35% below those observed from the late 1990s through the mid-2000s. Improved production in recent years has resulted in an increasing trend in turkey numbers within the region.



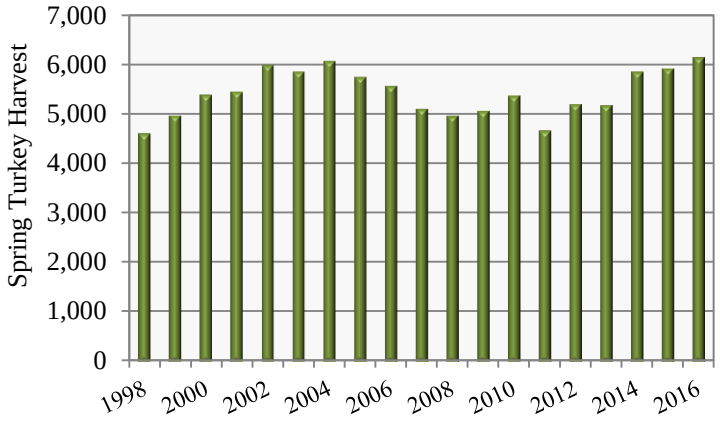
Northwest Region

Similar to the Northeast region, poor production caused turkey numbers to decline sharply in the Northwest region (Figure 1) during the late 2000s. Although regional production has improved, turkey numbers remain about 45% below the population peak. During the past five years, regional turkey numbers have stabilized.



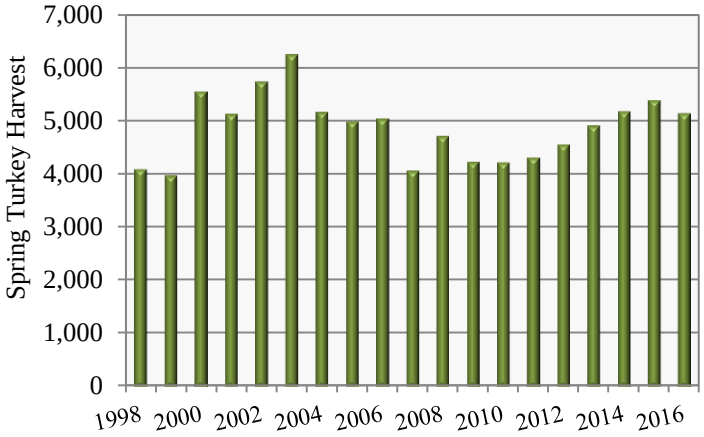
Ozark Border Region

Turkey numbers in the Ozark Border region (Figure 1) peaked in the early 2000s as they did in most of the state before declining during the mid-to-late 2000s. Regional turkey numbers have since increased and are currently just above the previous population peak. The region contains many of the top turkey harvest counties in the state.



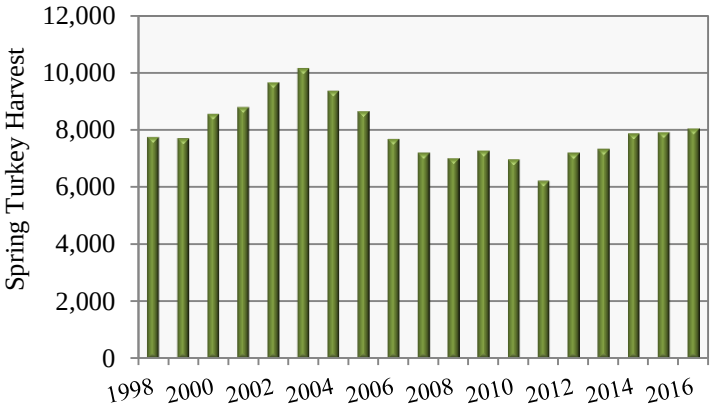
Ozarks East Region

The Ozarks East region (Figure 1) has experienced some of the state's best turkey production in recent years, which has spurred population growth throughout much of the region. Although turkey abundance remains about 15% below the peak observed during the early 2000s, regional turkey numbers have displayed an increasing trend during the last five years.



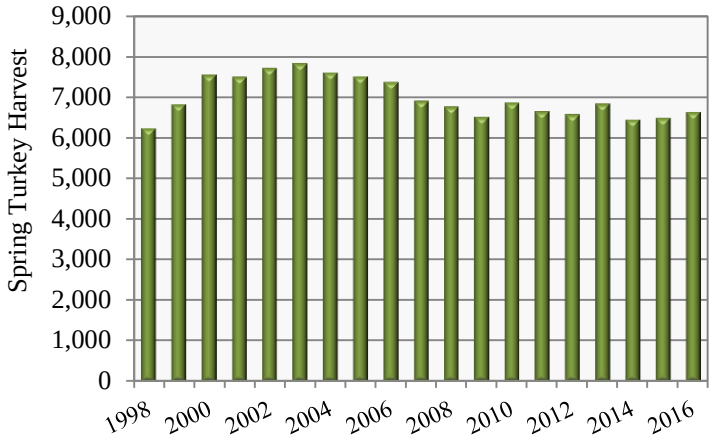
Ozarks West Region

Regional turkey numbers (Figure 1) are about 20% below the population peak that occurred during the early 2000s, however, improved production has resulted in an increasing population trend during the last five years. Like the Ozark Border region, many of the counties in the Ozarks West region consistently rank among the highest in the state for turkey harvest.



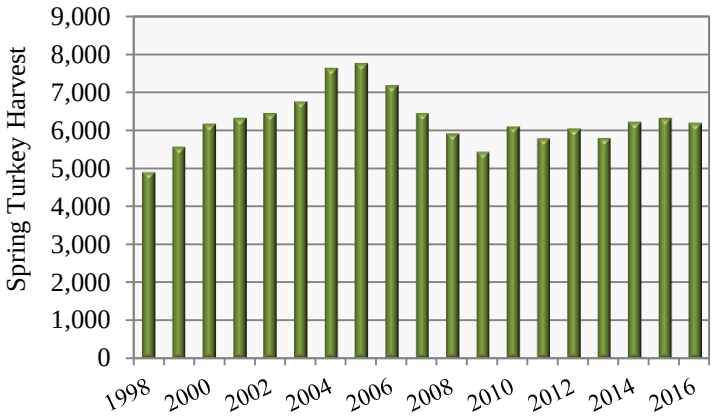
Union Breaks Region

Turkey numbers in the Union Breaks region (Figure 1) are stable and currently about 15% below peak numbers of the early 2000s. Containing a good mix of forested and open land cover types, this region contains some of the state's best turkey habitat and its counties consistently rank among the highest in turkey harvest.



West Prairie Region

Turkey numbers in the West Prairie region (Figure 1) have been stable for the last five years. Similar to the population trend in the Northwest region, turkey numbers peaked during the early-to-mid 2000s. Regional turkey numbers remain about 20% below that population peak.



REPRODUCTION – WILD TURKEY BROOD SURVEY

The Missouri Department of Conservation (MDC) has been conducting a Wild Turkey Brood Survey annually since 1959. During the survey, Department staff and citizen volunteers record observations of hens, poults, and gobblers during June, July, and August. Turkey sightings are recorded on observation cards, which the MDC mails to participants at the beginning of each survey month. By recording observations of hens and poults, survey participants provide information that serves as an index to turkey production. It is through this survey that the MDC determines the success of each year's turkey hatch. Turkey observations are collected at the county-level and analyzed by Turkey Productivity Region (Figure 1), which are counties grouped by similar land cover composition.

After receiving completed survey cards, MDC staff determines the percentage of hens observed with and without poults, as well as the average number of poults per hen for those hens observed with a brood. Observations of hens and poults are used to determine the poult-to-hen ratio (PHR), which is the average number of poults per hen. The PHR includes observations of hens with a brood and those observed without a brood.

In 2016, MDC staff and citizen volunteers recorded observations of over 59,000 turkeys during the three-month survey. At the statewide scale, 29% of hens were observed with a brood (Table 1), which is down from 43% in 2015 and is 34% less than the previous five-year average. The percentage of hens observed with a brood ranged from 25% in the Northeast and Northwest regions to 35% in the Mississippi Lowlands region. Statewide, the average brood size was 3.5 poults (Table 1), which is down from 3.9 in 2015 and 19% less than the previous five-year average. Average brood size ranged from 3.3 in the Union Breaks region to 4.2 in the Mississippi Lowlands region.

The 2016 statewide PHR of 0.8 was 47% less than the 2015 ratio, 50% less than the previous five-year average, and 43% less than the 10-year average (Table 2). The 2016 PHR was 53% less than the 20-year average. Among Turkey Productivity Regions, PHRs ranged from 0.8 in the Northeast, Union Breaks, and West Prairie to 1.3 in the Mississippi Lowlands (Table 2).

Prior to 2011, Missouri's turkey population had experienced four consecutive years of poor production characterized by low nest success and low poult survival. The average PHR during this period was 1.1. In contrast, the average PHR from 2011–2015 was 1.6, a 45% increase. Despite improvements in production prior to last year, the statewide PHR in 2016 was identical to the ratio in 1960, which was the lowest on record since the survey was initiated (Figure 2).

Table 1. Wild Turkey Brood Survey data by Turkey Productivity Region (Figure 1). Data were obtained from Missouri's Wild Turkey Brood Survey conducted in June, July, and August, 2016.

Productivity Region	% Hens w/ Poults	Average Brood Size	Poult-to-Hen Ratio	Gobbler-to-Hen Ratio
Lindley Breaks	33%	3.5	0.9	0.64
Mississippi Lowlands	35%	4.2	1.3	0.79
Northeast	25%	4.0	0.8	0.70
Northwest	25%	4.1	0.9	0.87
Ozark Border	27%	4.0	0.9	0.99
Ozarks East	28%	3.7	0.9	0.54
Ozarks West	26%	4.0	0.9	0.86
Union Breaks	29%	3.3	0.8	0.59
West Prairie	28%	3.5	0.8	1.02
Statewide[a]	**29%**	**3.5**	**0.8**	**0.75**

[a]Statewide totals include observations where Productivity Region was not recorded on the survey form.

Table 2. Index (poult-to-hen ratio) of Missouri turkey production by Turkey Productivity Region (Figure 1). Data were obtained during the 2016 Wild Turkey Brood Survey and are compared to previous years. For each interval value, the percent change indicates how the 2016 index compares to the previous year or the average for periodic intervals.

Productivity Region	2016 Index	1-year (2015) Change	5-year (2011–2015) Change	10-year (2006–2015) Change	20-year (1996–2015) Change
Lindley Breaks	0.9	-40%	-47%	-40%	-50%
Mississippi Lowlands	1.3	-19%	-13%	-24%	-38%
Northeast	0.8	-33%	-50%	-43%	-50%
Northwest	0.9	-50%	-44%	-36%	-50%
Ozark Border	0.9	-25%	-40%	-25%	-44%
Ozarks East	0.9	-53%	-55%	-50%	-53%
Ozarks West	0.9	-44%	-40%	-36%	-44%
Union Breaks	0.8	-47%	-47%	-43%	-50%
West Prairie	0.8	-27%	-38%	-27%	-47%
Statewide[a]	**0.8**	**-47%**	**-50%**	**-43%**	**-53%**

[a]Statewide totals include observations where Productivity Region was not recorded on the survey form.

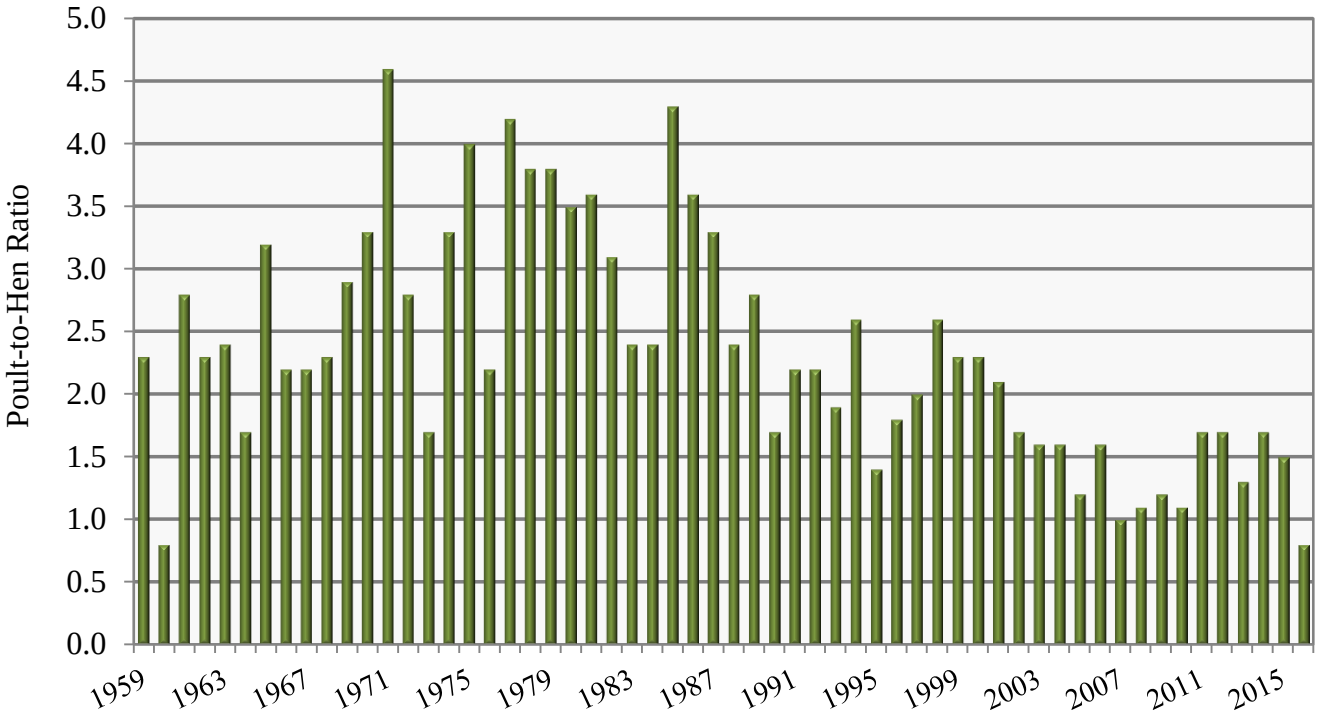


Figure 2. Missouri statewide poult-to-hen ratios derived from the Wild Turkey Brood Survey conducted in June, July, and August, 1959–2016.

HARVEST

2016 Spring Turkey Season

During the 2016 youth spring turkey season, which took place April 9–10, hunters harvested 4,167 turkeys. This harvest total represented a 6% decrease from the 2015 youth season and was 1% less than the previous five-year average. Hunters harvested 44,187 turkeys during the 21-day regular spring turkey season, which occurred April 18 – May 8. The regular season harvest was similar to the harvest total in 2015 (43,993).

Juvenile male turkeys represented 18% of the regular season harvest (Figure 3), which was 14% less than the previous five-year average. The total 2016 spring harvest, including both the youth and regular seasons, was 48,354. This harvest total was slightly less than the 2015 harvest (48,442), and was 5% greater than the previous five-year average. Counties with the highest total spring harvest were Franklin, St. Claire, and Texas, where 1,066, 963, and 934 turkeys were harvested, respectively (Figure 4).

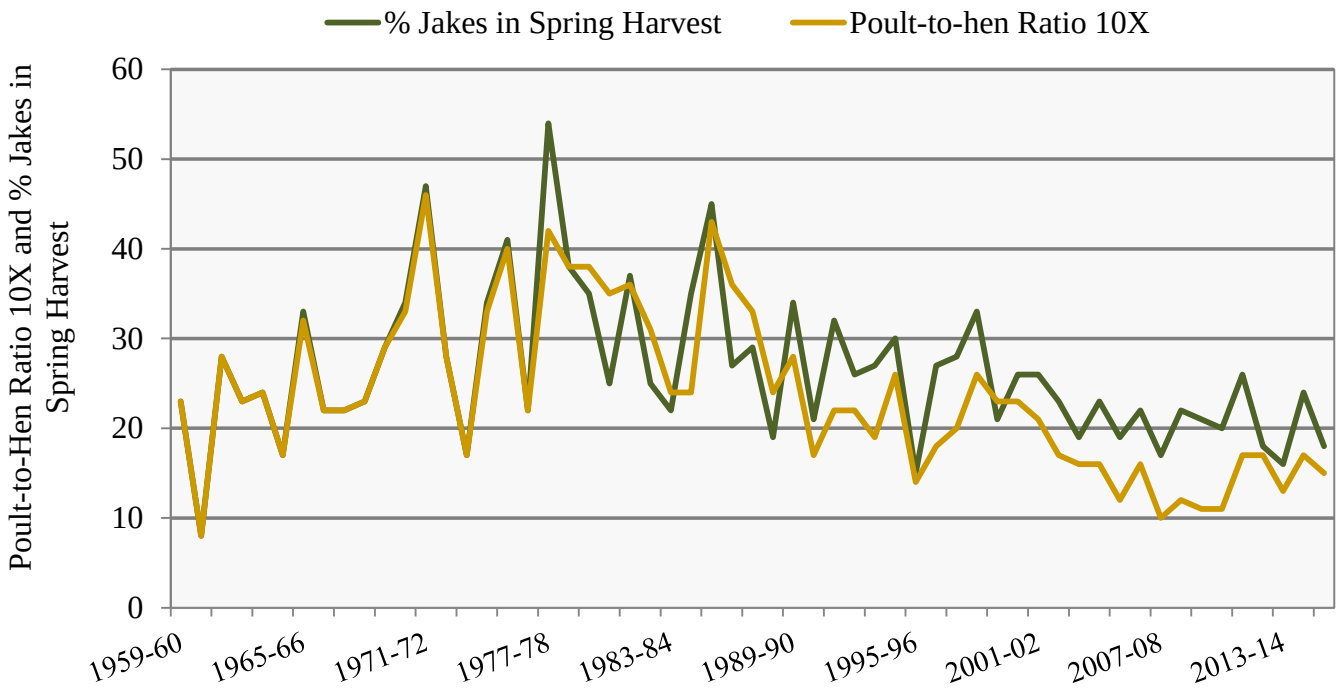


Figure 3. Missouri's statewide poult-to-hen ratio multiplied by 10, compared with the percentage of jakes in the following year's regular season spring harvest, 1959–2016.

Total permit sales for the 2016 spring turkey season (107,482; excluding no-cost landowner permits) were 3% less than in 2015 (Figure 5). Spring turkey permit sales in 2016 included 99,160 (92%) resident permits and 8,322 (8%) non-resident permits. An additional 42,624 no-cost permits were distributed to resident landowners. The total number of spring turkey hunters in Missouri in 2016 was 144,840, which was 3% less than in 2015. The total number of hunters does not equal the permit sales total because some hunters purchase a permit in addition to receiving a no-cost landowner permit.

Spring turkey harvest in Missouri during 2016 was 20% below the record harvest of over 60,000 birds in 2004 (Figure 5). Spring turkey hunter success stabilized from 2007–2011 after declining during the early to mid-2000s (Figure 6). Since 2011, spring turkey hunter success has displayed a slightly increasing trend. The success rate for permit-buyers during the 2016 spring season was 79 turkeys harvested per 1,000 hunting trips, which was 9% greater than the previous five-year average.

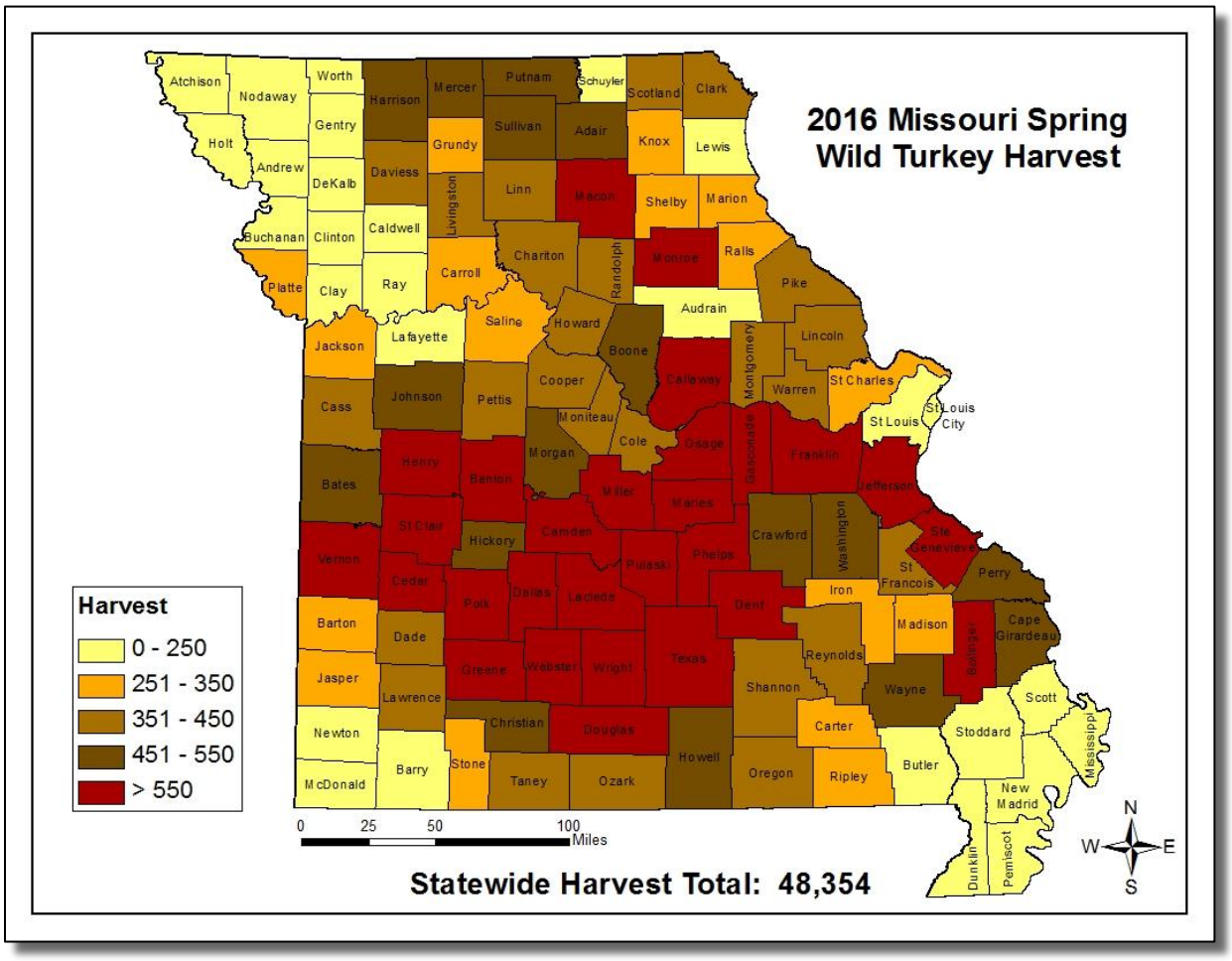


Figure 4. Total (youth and regular season) spring wild turkey harvest in Missouri, 2016.

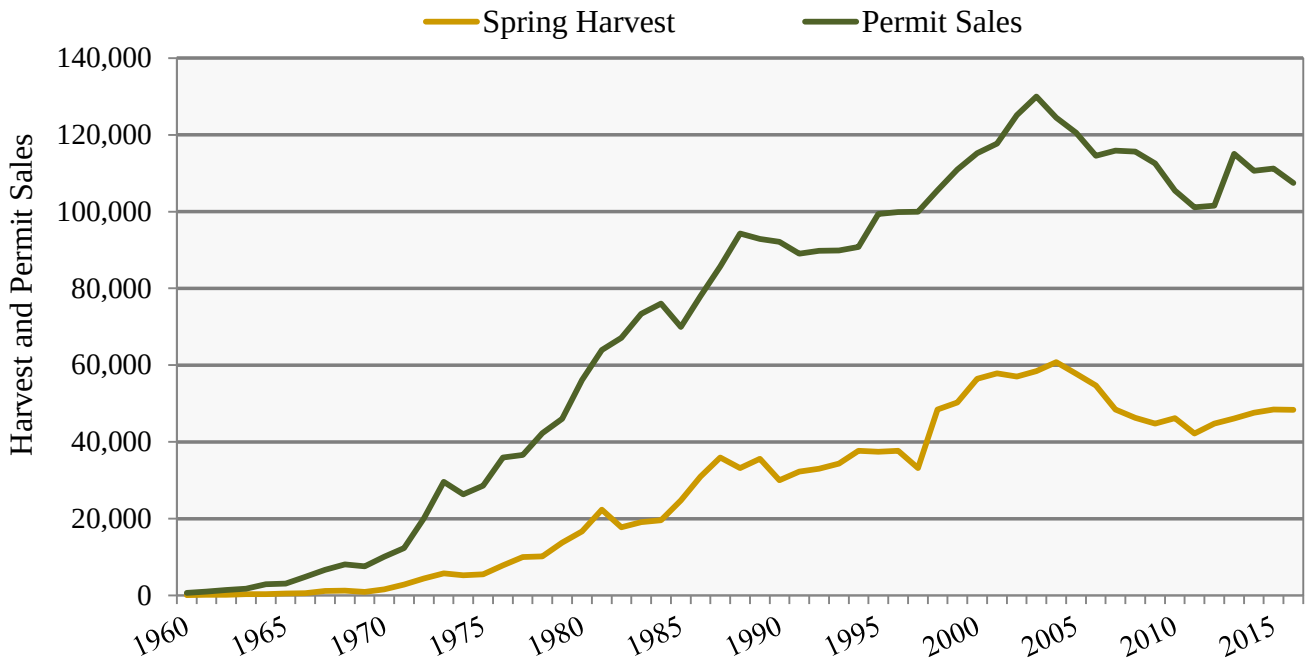


Figure 5. Number of wild turkeys harvested during the spring season (youth and regular season) in Missouri and the number of turkey hunting permits sold for the spring season, 1960–2016. Permit sales do not include no-cost landowner permits.

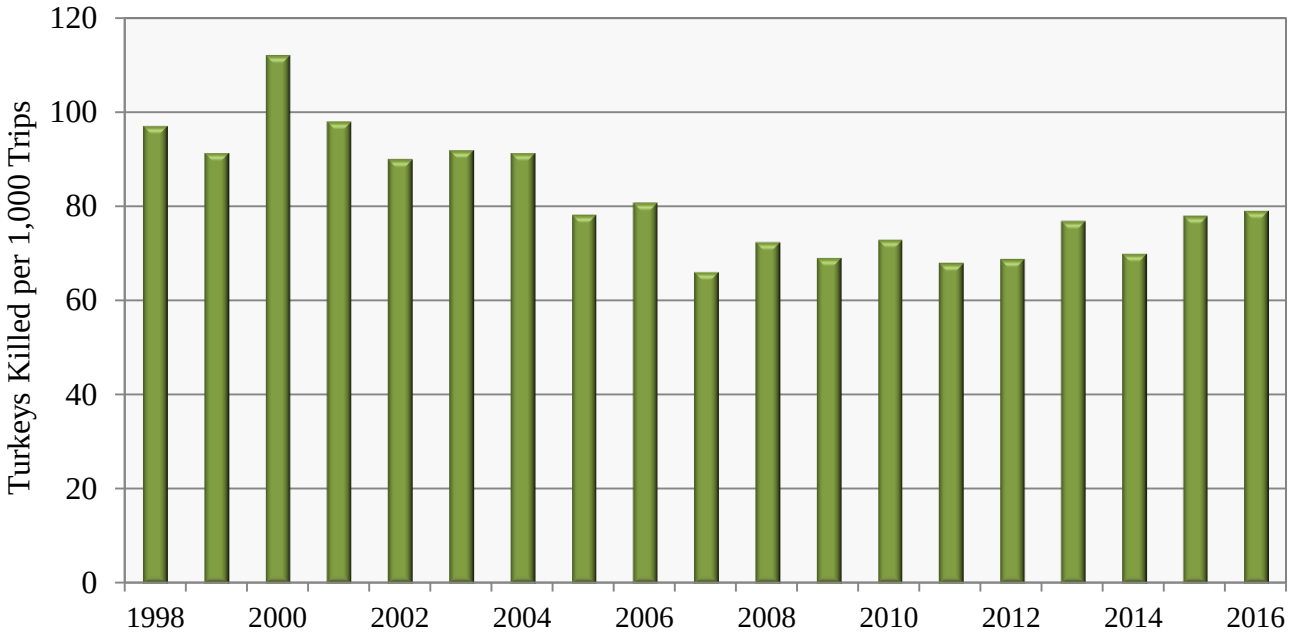


Figure 6. Statewide spring turkey hunter success rate in Missouri. Data are the number of turkeys harvested per 1,000 hunting trips, 1998–2016.

2016 Fall Firearms Turkey Season

The 2016 fall firearms turkey harvest total of 3,698 was 40% less than the 2015 harvest total and was 45% below the previous five-year average. The majority of the fall firearms harvest occurred in southern Missouri (Figure 7). The top three harvest counties were Greene, Franklin, and Wayne where 128, 96, and 92 turkeys were harvested, respectively.

Fall firearms turkey permit sales declined by 12% in 2016. Of the 11,696 permits sold, 11,469 (98%) were purchased by Missouri residents and 227 (2%) by nonresidents; an additional 60,761 no-cost permits were distributed to resident landowners. Fall firearms turkey hunting in Missouri has generally been declining in popularity since the late 1980s when over 50,000 permits were sold and more than 28,000 turkeys were harvested during the 14-day season (Figure 8).

Although the novelty of the fall firearms turkey season may have worn off for some of Missouri's hunters, the increasing popularity of the archery deer and turkey season is likely to be partially responsible for the declining interest. Additionally, declining turkey numbers during the mid-to-late 2000s are likely to have reduced hunter participation in the fall season. Missouri is not alone in experiencing a declining trend in fall firearms turkey hunting participation, as even some states with a strong fall turkey hunting tradition have experienced a decline in fall turkey hunter numbers.

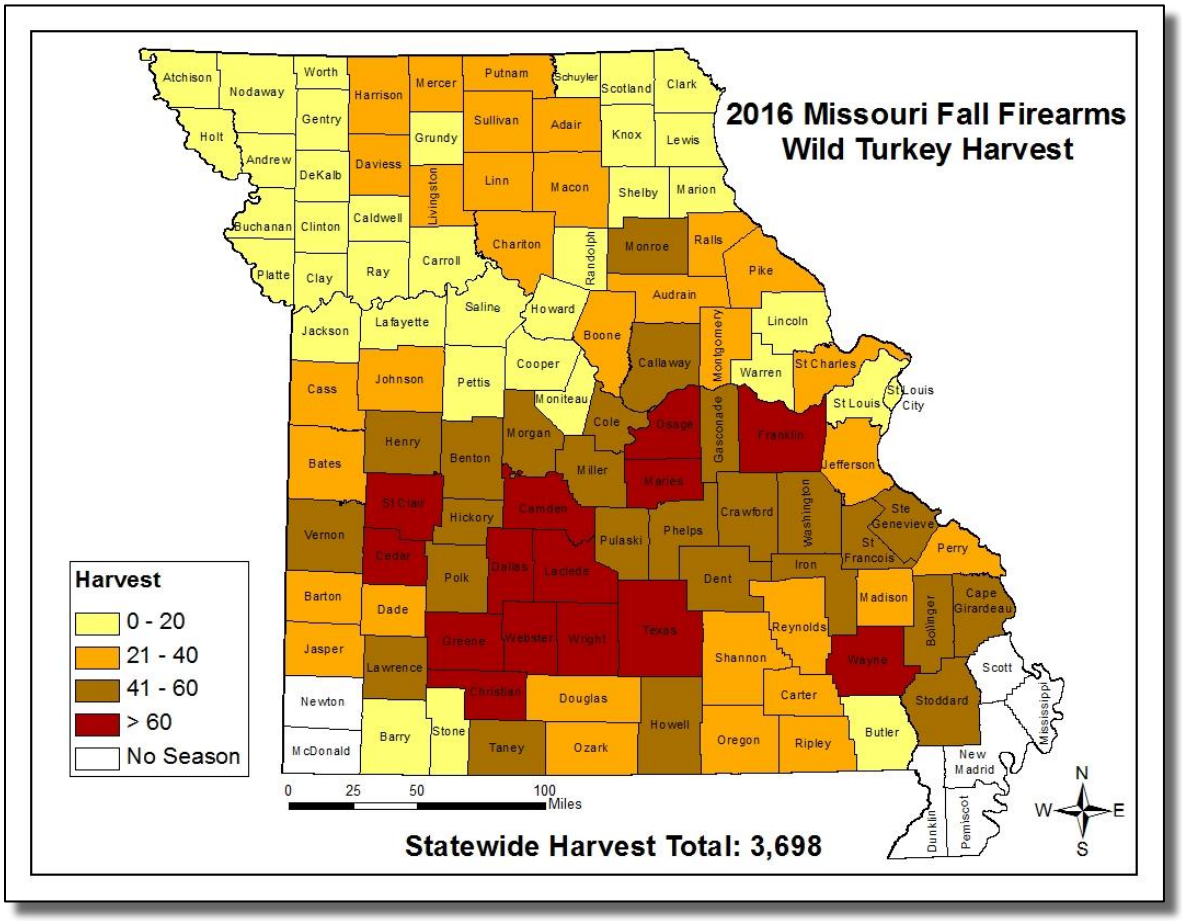


Figure 7. Missouri fall firearms wild turkey harvest, 2016.

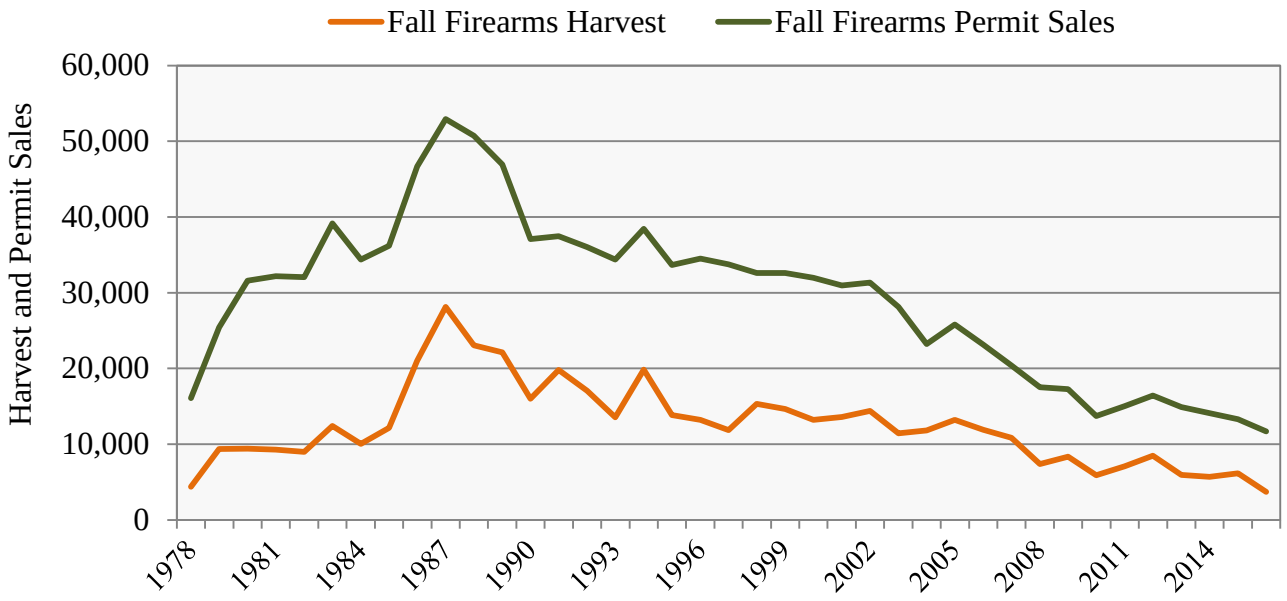


Figure 8. Number of wild turkeys harvested during the fall firearms turkey season in Missouri and the number of fall firearms permits sold, 1978–2016. Permit sales do not include no-cost landowner permits.

2016 Fall Archery Turkey Season

Hunters harvested 2,304 turkeys during the 2016 fall archery deer and turkey season (Figures 9, 10). The 2016 archery turkey harvest total was 24% less than the 2015 harvest total and was 20% less than the previous five-year average. Unlike the fall firearms turkey harvest, which has shown a declining trend since the late 1980s (Figure 8), the fall archery harvest increased until the mid-2000s. Since 2005, archery turkey harvests have fluctuated substantially on an annual basis, while showing a general trend towards stabilization (Figure 10).

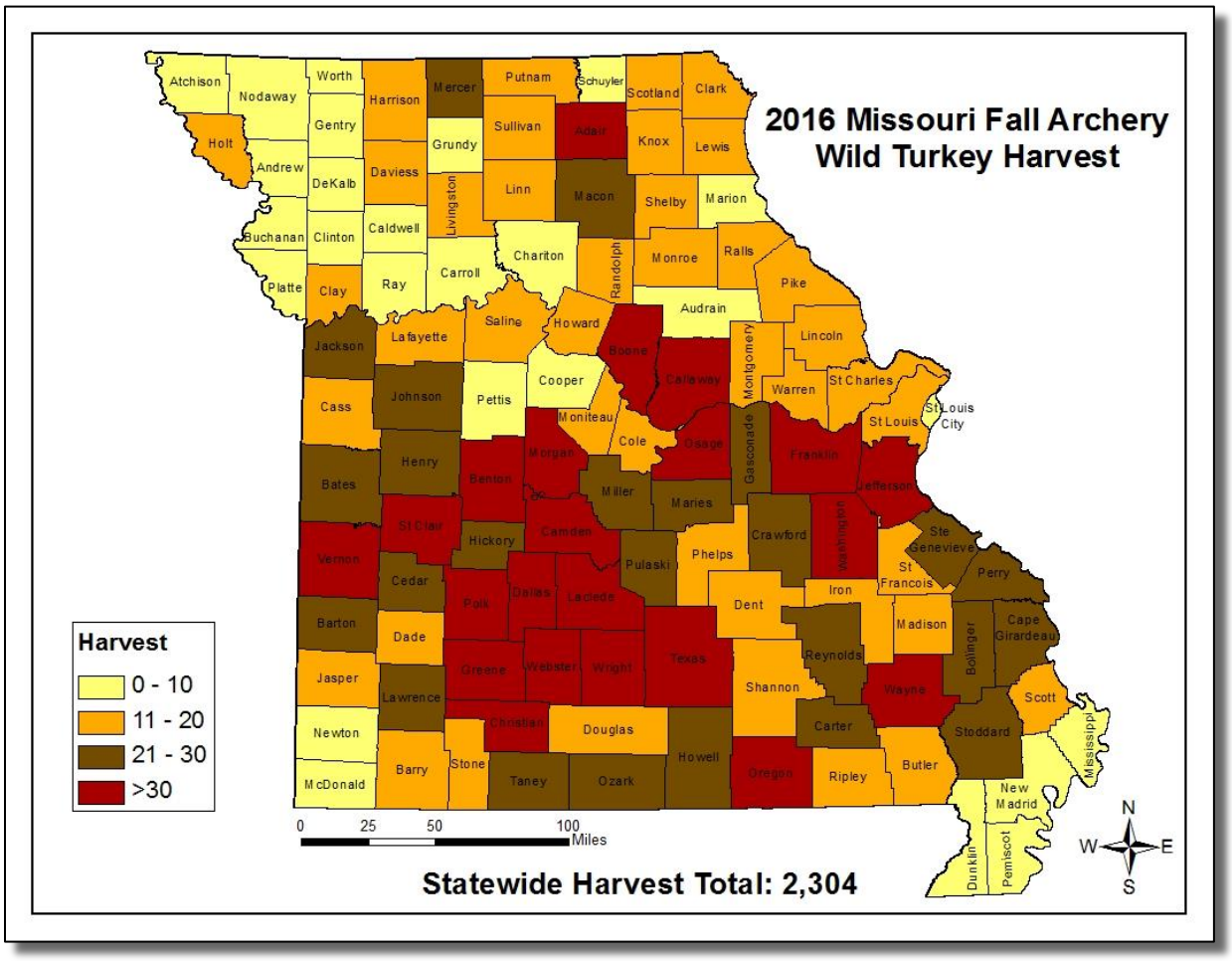


Figure 9. Wild turkey harvest in Missouri during the 2016 fall archery season.

Although archery permit sales were relatively stable from the mid-1990s through the mid-2000s, sales have since shown an increasing trend (Figure 11). In 2016, 121,489 permits were sold; the highest number since the season's inception. Of the archery permits sold in 2016, 111,039 (91%) were purchased by Missouri residents and 10,450 (9%) by non-residents. An additional 93,495 no-cost permits were distributed to resident landowners.

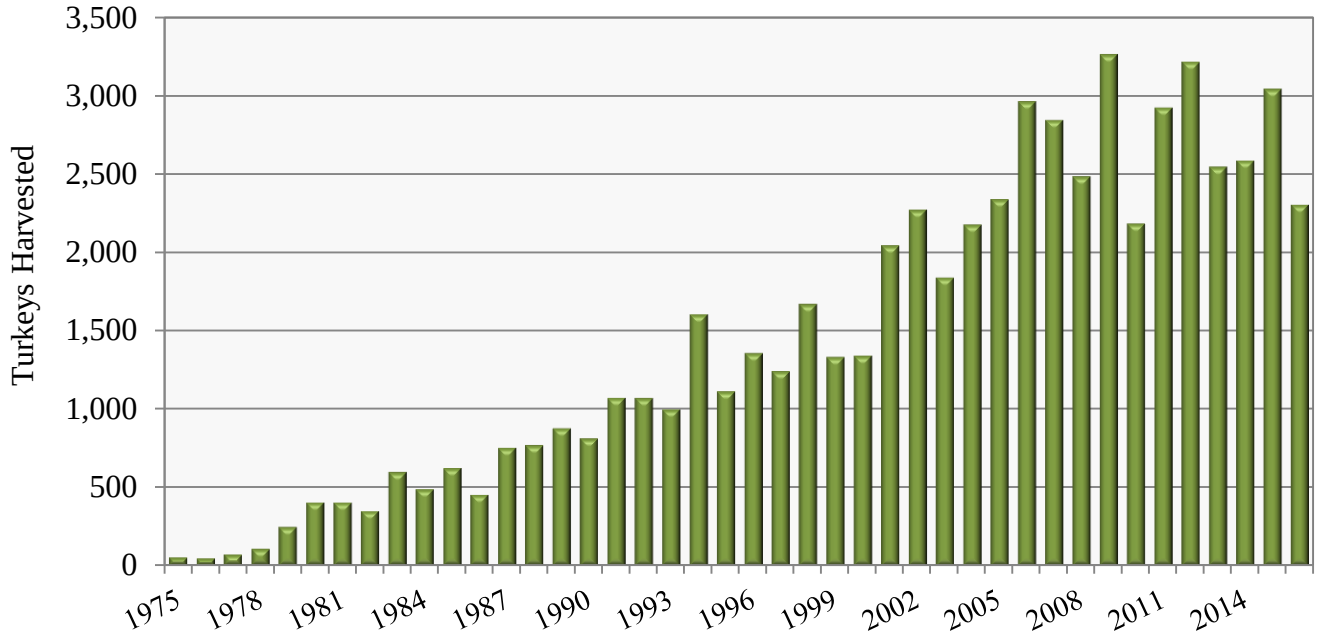


Figure 10. Missouri fall archery wild turkey harvest, 1975–2016.

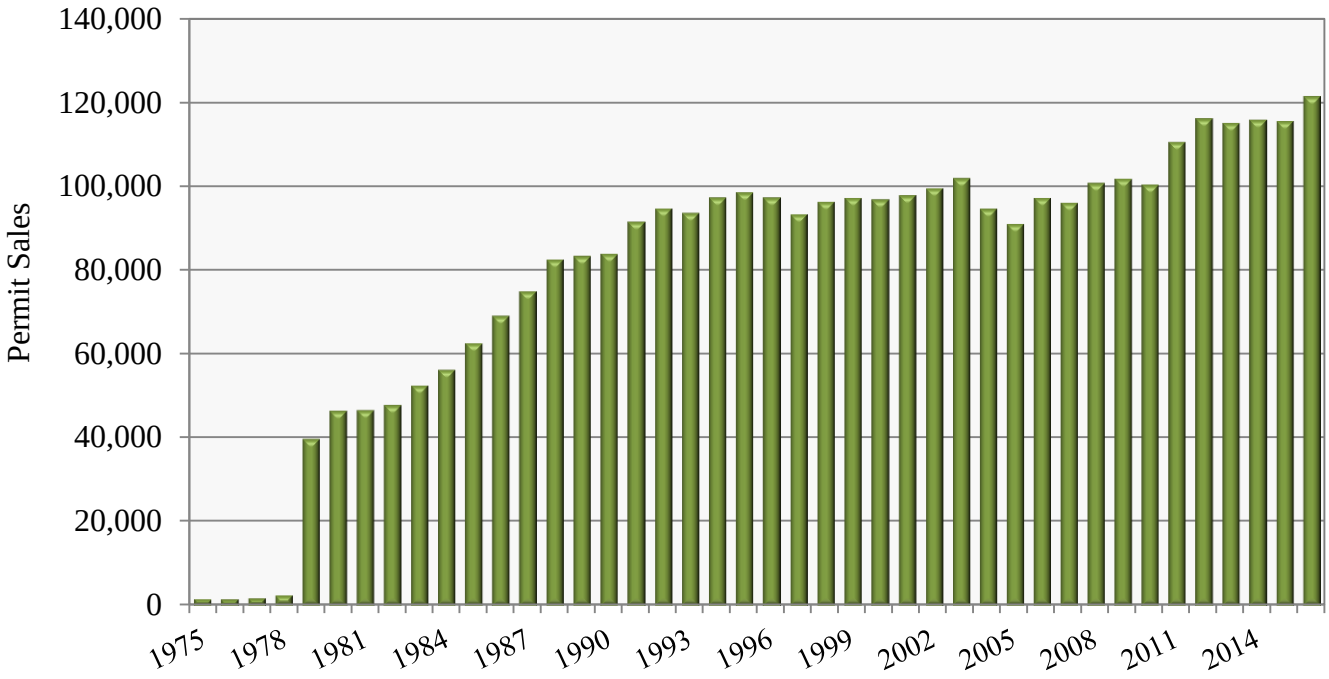


Figure 11. Missouri archery deer and turkey permit sales, 1975–2016. Permit sales do not include no-cost landowner permits. Prior to 1979, hunters purchased archery deer and turkey permits separately.

HUNTING INCIDENTS

There was one non-fatal hunting incident during the 2016 spring turkey season. The number of spring turkey hunting incidents in Missouri has declined considerably over the course of the last three decades. During the late 1980s, more than 30 incidents occurred annually for every 100,000 permits sold. During the last five hunting seasons, the average number of incidents per 100,000 permits sold is 3.3 (Figure 12).

RECENT REGULATION CHANGES

Beginning in 2016, crossbows became a legal method for all hunters during the fall archery deer and turkey season.

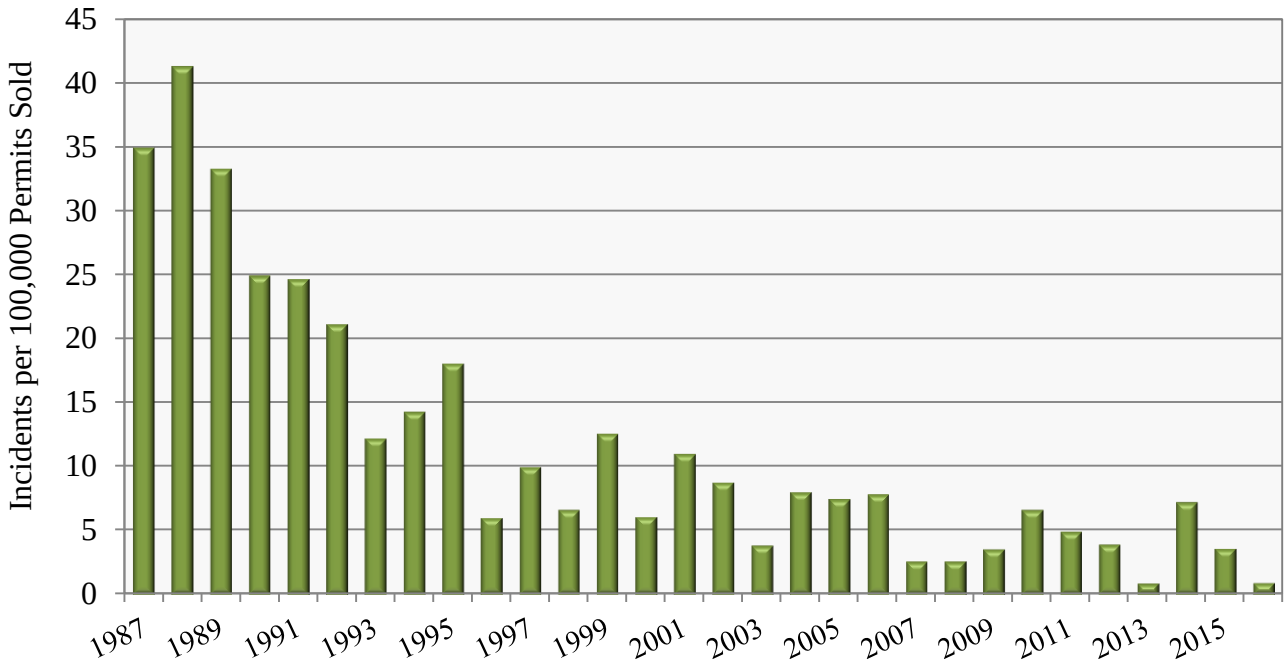


Figure 12. Hunting incidents during the spring turkey season in Missouri per 100,000 permits sold, 1987–2016.

BOWHUNTER OBSERVATION SURVEY

Since 1983, MDC staff and citizen volunteers participating in the MDC's Bowhunter Observation Survey have recorded the number of turkeys observed while archery hunting. Survey participants also record the number of hours they bowhunt and in which county, allowing an index of turkey abundance to be calculated at the statewide and regional scales.

In 2016, at the statewide scale, the number of turkeys observed per 1,000 hours bowhunting was 250 (Figure 13). At the regional scale, index values ranged from 188 in the Lindley Breaks to 360 in the Ozark Border (Table 3). The statewide average of 250 was 34% less than in 2015 and was 35% less than the previous five-year average. The statewide index remains 38% and 51% below the previous 10 and 20-year averages, respectively (Table 3).

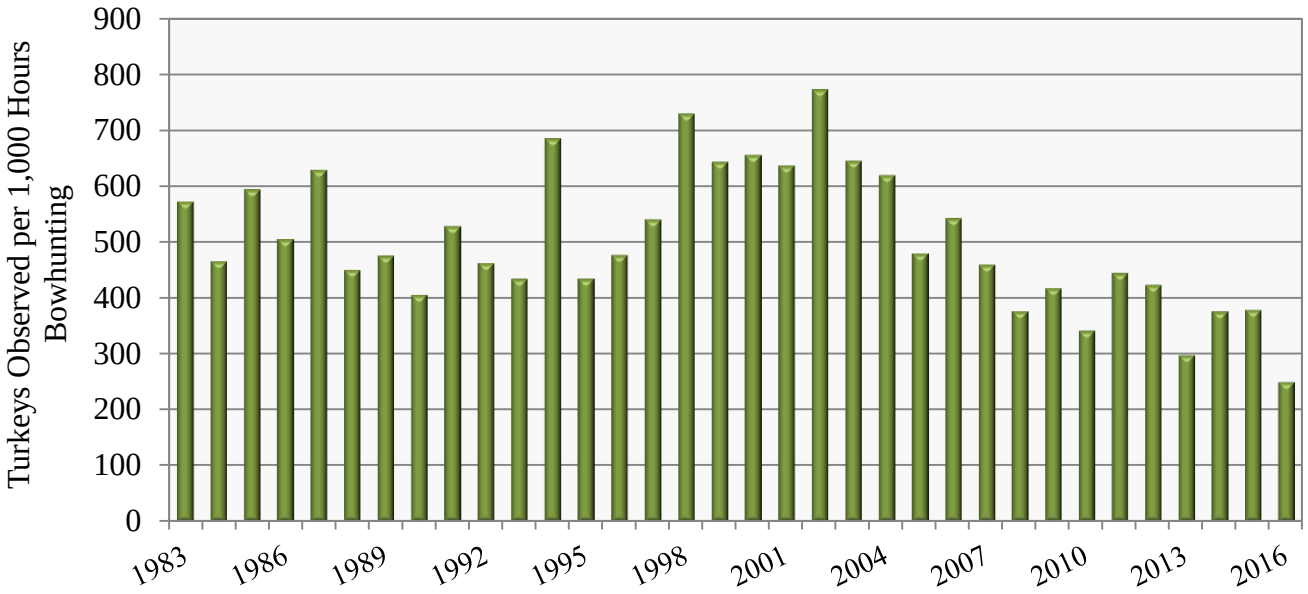


Figure 13. Number of wild turkeys observed during the Missouri Department of Conservation's Bowhunter Observation Survey, 1983–2016. Data are the average number of turkeys observed per 1,000 hours bowhunting at the statewide scale.

Table 3. Index of wild turkey abundance in Missouri by Turkey Productivity Region (Figure 1). Data were obtained from the Conservation Department's Bowhunter Observation Survey. Index values are the average number of turkeys observed per 1,000 hours bowhunting. For each interval value, the % change indicates how the 2016 index compares to the previous year or the average for periodic intervals.

Productivity Region	2016 Index	1-year (2015) Change	5-year (2011–2015) Change	10-year (2006–2015) Change	20-year (1996–2015) Change
Lindley Breaks	188	-25%	-38%	-41%	-52%
Mississippi Lowlands	263	+112%	+59%	-9%	-6%
Northeast	238	-40%	-45%	-44%	-62%
Northwest	245	-41%	-43%	-55%	-67%
Ozark Border	360	-29%	-21%	-15%	-31%
Ozarks East	274	-5%	+2%	+2%	-15%
Ozarks West	195	-51%	-42%	-44%	-54%
Union Breaks	284	-27%	-23%	-26%	-33%
West Prairie	273	-40%	-42%	-48%	-57%
Statewide	**250**	**-34%**	**-35%**	**-38%**	**-51%**

NORTHEAST MISSOURI WILD TURKEY RESEARCH PROJECT UPDATE

Introduction

In 2013, the MDC began a five-year wild turkey research project in north Missouri in partnership with the University of Missouri and the University of Washington. The study is being conducted in Putnam, Schuyler, Monroe, and Marion Counties. Funding for the project is provided by the MDC and grants from the U.S. Fish and Wildlife Service's Wildlife Restoration Program and the George Clark Missouri State Chapter of the National Wild Turkey Federation. The research project will provide information that will be used by the Conservation Department's Wild Turkey Management Program to monitor the turkey population and assist with making decisions about hunting regulations. The Conservation Department uses a science-based approach to manage the state's wild turkey population and this research project is just one of the many ways that the Department obtains the information used in its program.

The goal of the research project is to develop population models, which will provide annual estimates of turkey population size, survival rates, harvest rates (percentage of the population shot by hunters), recruitment (number of young produced that enter the population), and the growth rate of the turkey population. A computer software program will also be developed to facilitate use of the population models. Researchers will be capturing and radio-tracking turkeys throughout the four-county study area. During trapping efforts, all turkeys are released in the same fields where they are captured. The

field-based portion of the research project will provide the Conservation Department with estimates of seasonal and annual survival for adult gobblers, jakes, and hens, as well as harvest rate estimates during the spring and fall hunting seasons.

Fitting wild turkeys with radio-transmitters allows researchers to track the birds and determine survival throughout the year in addition to identifying the various sources of mortality. Of central importance will be determining what percentage of adult gobblers and jakes are harvested during the spring hunting season. To allow harvest rates to be estimated, a toll-free phone number has been inscribed on each turkey band. Should a hunter happen to shoot a banded turkey, in addition to reporting their bird through the Telecheck system, the Conservation Department asks that they call the toll-free number on the band. The information gained from band returns is critically important to the success of the project.

In addition to determining the percentage of adult gobblers and jakes that are harvested during the spring hunting season, researchers will determine what percentage of banded turkeys are harvested during the fall season. Researchers will also be monitoring hens closely during the nesting and brood-rearing seasons. The study will allow researchers to answer some basic questions about turkey reproduction, including: What proportion of hens attempt to nest each year? Does this differ between adult and juvenile hens? What percentage of hens nest successfully? Of those hens that nest successfully, what is the survival rate of their poults? Although previous research projects have shed light on the answers to these questions, brood survey results indicate considerable declines in turkey production since the last turkey research project was conducted in Missouri and having updated information is important.

Years 1–3 – Project Summary

Researchers have captured over 1,300 turkeys during the first four winter field seasons, including 381 males and 985 hens. All males were banded and radio-tagged; 136 hens were banded and radio-tagged, and 849 hens were marked only with bands.

Annual survival rates of radio-tagged hens have ranged from 50–63%. Winter was the season of highest survival during the first (93%) and third (98%) years of the project. During the second year of the project, highest seasonal survival was during spring (89%). Lowest seasonal survival period was summer during years one (84%) and two (78%). During year three, spring was lowest seasonal survival period (81%).

Annual survival of adult gobblers (39–46%) was lower than that of hens and jakes (68–77%). For adult gobblers, seasonal survival has been greatest in fall (92%) during years one and two, and in winter (98%) during year three. Seasonal survival rates of adult gobblers have been lowest during spring (56–69%). Greatest seasonal survival of jakes has varied from summer (98%) in year one, summer and winter during year two (95%), and fall (100%) in year three. Lowest season survival of jakes has been during spring in years one and three (both 85%) and during fall (89%) in year two.

During the first three years of the project, predation has been the leading cause of death of hens and jakes. Based on evidence at kill sites, coyotes, bobcats, and great-horned owls were suspected of having predated radio-tagged turkeys. Hunter harvest has been the leading cause of death for adult gobblers. During the first three years of the project, the percentage of adult gobblers harvested during the spring season has ranged from 15–31%. Not surprisingly, the percentage of jakes harvested during the spring season (0–6%) has been considerably lower than that of adult gobblers.

Researchers were radio-tracking 126 turkeys (38 adult gobblers, 55 jakes, and 33 hens) during the 2014 fall turkey season; an additional 68 hens had been banded the previous winter, but had not been fitted with radio-tags. During the 2014 fall season, three jakes (2% of the radio-tagged turkeys) were harvested. None of the marked hens were harvested. During the 2015 fall turkey season, 131 turkeys (39 adult gobblers, 60 jakes, and 32 hens) were being radio-tracked and an additional 219 hens had been banded the previous winter, but not radio-tagged. Similar to 2014, 2% of the radio-tagged turkeys were harvested during the 2015 fall season. This included one hen and two males (one adult gobbler and one jake). An additional banded hen (not radio-tagged) was also harvested. On opening day of the 2016 fall turkey season, researchers were radio-tracking 126 turkeys (46 adult gobblers, 47 jakes, and 33 hens); an additional 207 hens had been banded the previous winter. During the fall season, one radio-tagged hen was harvested, which was less than one percent of the radio-tagged turkeys. An additional banded hen (not radio-tagged) was also harvested.

Of the hens radio-tracked during the first three years of the project, the median dates of initial nest incubation initiation have ranged from May 7–16. Most radio-tagged adult hens (69–88%) have initiated incubation of at least one nest, whereas only 40–60% of juvenile hens initiated incubation. Of the adult hens that failed their initial nesting attempt, 30–60% initiated incubation of a second nest. One-third of juvenile hens have renested during the first three years of the study.

During years 1–3, the percentage of hens that have been successful at hatching poults (female success) has ranged from 17–27%. Female success has been greater for adult hens (29%, 24%, 19%) than for juvenile hens (20%, 10%, 0%). Average first nest clutch sizes have been 10, 11, and 11 eggs, respectively. Of the eggs laid in successful nests, 94%, 82%, and 97% hatched. During the first three years of the project, 47%, 25%, and 15% of poults have survived to be about a month old.

Appendix A. 2016 Missouri spring turkey harvest (youth and regular seasons combined).

County	Adult Males	Juvenile Males	Bearded Hens	Total	Rank[a]
Adair	381	66	5	452	45
Andrew	194	33	6	233	94
Atchison	144	24	4	172	103
Audrain	215	30	2	247	89
Barry	177	49	3	229	96
Barton	267	54	8	329	74
Bates	394	104	6	504	39
Benton	691	113	12	816	5
Bollinger	444	115	8	567	27
Boone	440	85	10	535	32
Buchanan	127	25	1	153	104
Butler	131	51	1	183	101
Caldwell	181	50	4	235	93
Callaway	621	189	10	820	4
Camden	566	99	13	678	15
Cape Girardeau	342	143	8	493	41
Carroll	278	50	1	329	75
Carter	186	81	1	268	83
Cass	274	120	2	396	61
Cedar	600	99	9	708	11
Chariton	377	43	1	421	54
Christian	379	118	6	503	40
Clark	322	51	3	376	67
Clay	146	37	0	183	102
Clinton	106	27	1	134	107
Cole	293	97	3	393	62
Cooper	295	58	1	354	70
Crawford	399	111	7	517	36
Dade	332	80	4	416	57
Dallas	487	103	8	598	24
Daviess	328	85	8	421	55
DeKalb	148	35	3	186	100
Dent	505	154	17	676	16
Douglas	497	114	11	622	20
Dunklin	8	5	0	13	114
Franklin	826	223	17	1,066	1

[a]Rank based on total harvest in Missouri's 114 counties.

Appendix A. Continued.

County	Adult Males	Juvenile Males	Bearded Hens	Total	Rank[a]
Gasconade	545	146	9	700	12
Gentry	157	33	1	191	99
Greene	605	144	12	761	8
Grundy	267	52	7	326	76
Harrison	402	61	4	467	43
Henry	554	102	19	675	17
Hickory	463	69	7	539	30
Holt	204	40	4	248	88
Howard	355	68	2	425	50
Howell	393	121	4	518	35
Iron	216	63	4	283	82
Jackson	179	69	5	253	87
Jasper	256	63	7	326	77
Jefferson	472	135	13	620	21
Johnson	377	92	3	472	42
Knox	256	35	4	295	80
Laclede	658	133	5	796	6
Lafayette	197	47	2	246	90
Lawrence	322	76	9	407	59
Lewis	187	35	5	227	98
Lincoln	343	76	6	425	51
Linn	356	59	5	420	56
Livingston	325	81	4	410	58
Macon	642	89	11	742	9
Madison	270	78	1	349	71
Maries	461	126	5	592	25
Marion	262	25	3	290	81
McDonald	61	24	2	87	110
Mercer	457	48	8	513	37
Miller	483	118	5	606	23
Mississippi	53	9	0	62	111
Moniteau	293	60	4	357	69
Monroe	560	85	6	651	18
Montgomery	360	83	7	450	46
Morgan	422	109	6	537	31
New Madrid	45	16	0	61	112

[a]Rank based on total harvest in Missouri's 114 counties.

Appendix A. Continued.

County	Adult Males	Juvenile Males	Bearded Hens	Total	Rank[a]
Newton	107	38	3	148	105
Nodaway	206	28	3	237	92
Oregon	274	114	4	392	63
Osage	616	140	7	763	7
Ozark	291	98	3	392	64
Pemiscot	28	7	1	36	113
Perry	341	162	3	506	38
Pettis	362	59	2	423	52
Phelps	539	133	7	679	14
Pike	354	64	4	422	53
Platte	204	54	2	260	86
Polk	609	109	11	729	10
Pulaski	451	95	7	553	28
Putnam	491	50	3	544	29
Ralls	261	44	2	307	79
Randolph	395	53	2	450	47
Ray	182	44	2	228	97
Reynolds	285	73	3	361	68
Ripley	223	100	0	323	78
Saint Charles	222	40	4	266	84
Saint Clair	854	94	15	963	2
Saint Francois	357	75	2	434	48
Saint Louis	110	19	4	133	108
Sainte Genevieve	527	146	11	684	13
Saline	270	65	6	341	73
Schuyler	218	15	0	233	95
Scotland	347	36	2	385	65
Scott	102	46	0	148	106
Shannon	308	72	3	383	66
Shelby	236	29	1	266	85
Stoddard	166	75	1	242	91
Stone	266	67	9	342	72
Sullivan	459	67	3	529	33
Taney	363	68	2	433	49
Texas	726	195	13	934	3
Vernon	518	104	13	635	19

[a]Rank based on total harvest in Missouri's 114 counties.

Appendix A. Continued.

County	Adult Males	Juvenile Males	Bearded Hens	Total	Rank[a]
Warren	313	87	4	404	60
Washington	362	91	6	459	44
Wayne	403	123	2	528	34
Webster	484	113	12	609	22
Worth	96	9	1	106	109
Wright	463	113	15	591	26
Totals	**38,948**	**8,805**	**601**	**48,354**	

[a]Rank based on total harvest in Missouri's 114 counties.

Appendix B. 2016 Missouri fall turkey harvest (firearms and archery seasons combined).

County	Adult Males	Adult Females	Juvenile Males	Juvenile Females	Total	Rank[a]
Adair	13	26	3	17	59	44
Andrew	4	7	0	8	19	95
Atchison	1	3	2	2	8	106
Audrain	9	5	4	9	27	83
Barry	9	8	5	3	25	87
Barton	17	16	6	11	50	55
Bates	13	19	6	16	54	54
Benton	29	26	5	16	76	25
Bollinger	14	19	10	24	67	34
Boone	23	18	7	14	62	41
Buchanan	1	0	2	1	4	110
Butler	8	8	3	8	27	84
Caldwell	8	5	0	7	20	93
Callaway	19	24	12	30	85	19
Camden	28	31	16	32	107	9
Cape Girardeau	21	17	7	18	63	40
Carroll	5	9	6	4	24	90
Carter	5	22	11	19	57	49
Cass	14	12	12	17	55	53
Cedar	34	30	16	20	100	12
Chariton	7	7	8	9	31	77
Christian	36	23	7	27	93	15
Clark	5	12	5	4	26	86
Clay	9	5	1	5	20	94
Clinton	4	6	0	5	15	98
Cole	18	19	7	21	65	38
Cooper	4	6	1	4	15	99
Crawford	19	23	11	27	80	23
Dade	20	14	6	19	59	45
Dallas	34	31	15	37	117	8
Daviess	21	12	5	19	57	50
DeKalb	6	10	1	2	19	96
Dent	22	20	4	24	70	30
Douglas	17	15	6	20	58	46
Dunklin	0	0	0	0	0	114

[a]Rank based on total harvest in Missouri's 114 counties.

Appendix B. Continued.

County	Adult Males	Adult Females	Juvenile Males	Juvenile Females	Total	Rank[a]
Franklin	36	46	15	50	147	2
Gasconade	26	15	12	18	71	28
Gentry	6	4	1	2	13	102
Greene	60	46	17	55	178	1
Grundy	7	4	3	9	23	91
Harrison	12	10	0	14	36	68
Henry	17	19	5	44	85	20
Hickory	27	14	8	24	73	27
Holt	7	13	4	8	32	75
Howard	10	5	5	9	29	78
Howell	21	16	15	18	70	31
Iron	16	15	6	21	58	47
Jackson	17	14	3	9	43	62
Jasper	30	16	7	4	57	51
Jefferson	33	23	8	16	80	24
Johnson	12	11	7	16	46	59
Knox	4	6	5	10	25	88
Laclede	28	30	21	46	125	5
Lafayette	8	10	7	3	28	80
Lawrence	27	21	10	10	68	33
Lewis	8	10	4	7	29	79
Lincoln	10	13	3	9	35	70
Linn	17	15	2	8	42	64
Livingston	15	11	5	15	46	60
Macon	13	24	8	17	62	42
Madison	17	11	6	24	58	48
Maries	37	19	21	43	120	6
Marion	2	1	0	4	7	107
McDonald	0	4	0	0	4	111
Mercer	16	13	9	11	49	56
Miller	21	12	11	23	67	35
Mississippi	1	1	0	0	2	113
Moniteau	10	10	3	9	32	76
Monroe	20	14	6	17	57	52
Montgomery	14	14	2	17	47	57

[a]Rank based on total harvest in Missouri's 114 counties.

Appendix B. Continued.

County	Adult Males	Adult Females	Juvenile Males	Juvenile Females	Total	Rank[a]
Morgan	36	16	8	26	86	18
New Madrid	1	1	0	1	3	112
Newton	3	6	0	1	10	104
Nodaway	1	3	0	3	7	108
Oregon	14	16	16	21	67	36
Osage	30	28	14	25	97	14
Ozark	20	12	6	5	43	63
Pemiscot	2	3	1	0	6	109
Perry	15	24	12	15	66	37
Pettis	6	6	6	10	28	81
Phelps	18	16	9	28	71	29
Pike	13	15	3	9	40	67
Platte	8	10	1	2	21	92
Polk	23	25	14	25	87	17
Pulaski	35	15	12	22	84	21
Putnam	14	17	4	7	42	65
Ralls	13	10	2	11	36	69
Randolph	15	13	3	3	34	71
Ray	5	6	1	3	15	100
Reynolds	20	15	8	21	64	39
Ripley	13	15	3	11	42	66
Saint Charles	9	14	5	5	33	74
Saint Clair	51	43	17	27	138	3
Saint Francois	23	12	9	16	60	43
Saint Louis	4	6	1	7	18	97
Sainte Genevieve	24	15	13	22	74	26
Saline	8	4	1	2	15	101
Schuyler	9	12	5	2	28	82
Scotland	6	12	1	8	27	85
Scott	5	3	0	5	13	103
Shannon	12	10	12	13	47	58
Shelby	7	8	3	7	25	89
Stoddard	16	17	24	24	81	22
Stone	14	9	1	10	34	72
Sullivan	18	15	5	8	46	61

[a]Rank based on total harvest in Missouri's 114 counties.

Appendix B. Continued.

County	Adult Males	Adult Females	Juvenile Males	Juvenile Females	Total	Rank[a]
Taney	23	18	8	21	70	32
Texas	20	33	14	34	101	11
Vernon	42	27	14	16	99	13
Warren	6	15	3	10	34	73
Washington	27	17	14	31	89	16
Wayne	30	35	22	44	131	4
Webster	40	27	10	41	118	7
Worth	3	2	1	3	9	105
Wright	33	26	18	30	107	10
Totals	**1,837**	**1,670**	**773**	**1,724**	**6,004**	

[a]Rank based on total harvest in Missouri's 114 counties.

Missouri Department of Conservation